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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,211	01/24/2001	Brandon W. Chung	IL-10678	4866

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EXAMINER

MERCADO, JULIAN A

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 02/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/769,211

Applicant(s)

CHUNG ET AL.

Examiner

Julian A. Mercado

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1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1 and 3-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Remarks*

This Office Action is responsive to applicant's amendment filed November 26, 2002.

The rejection of claims 1-4 and 13 under 35 U.S.C. 112, second paragraph has been withdrawn.

The rejection of claims 1-13, 15 and 17-19 under 35 U.S.C. 102(b) based on Faita et al. has been withdrawn.

Claim 2 has been canceled per applicant's amendment.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 7 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for one pair of openings in both end sections of the interconnect plates, does not reasonably provide enablement for "at least one pair of openings", i.e. two pairs of openings in both end sections. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Figures 1 and 2 show a pair of openings in both end sections of each of the interconnect plates and notably also showing two pairs of openings in support of the limitation "at least one pair of openings". However, the plates do not show more than one pair of

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openings in each end section and the original disclosure does not remedy this deficiency in the Figures.

It is suggested to delete the new limitation "both" as recited in "*both* end sections thereof" or, delete the limitation "at least" in "*at least* one pair of openings".

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Claims 1, 3-13, 15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faita et al. (U.S. Pat. 5,482,792).

Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faita et al. as applied to claims 1, 3-13, 15 and 17-19 above, in view of Akiyama et al. (U.S. Pat. 4,997,726).

The rejection(s) is maintained for the reasons of record and for the additional reasons to follow in response to applicant's salient arguments. With respect to claim 1, applicant has amended the claim to recite an "internal manifold including aligned openings in adjacent components". While Faita does not explicitly teach alignment of the openings, it would have been obvious to one of ordinary skill in the art to realize that the openings [2] in the bipolar plate [1] require alignment with an adjacent component such as the frame [8] with its own respective openings [9], in order for the reactant gases to pass therethrough unobstructed. In support thereof, Figure 6 is relied upon to show, illustratively, that the adjacent components [1] and [8]

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are oriented such that the respective openings [2] and [9] would result in the same. Additionally, the skilled artisan would find obvious that the openings are aligned as Faita teaches that additional holes [4] and [10] are provided throughout the fuel cell components for passage of tie-rods. (col. 5 line 58-60, col. 6 line 19-22) The skilled artisan would find obvious that these tie-rods provide alignment integrity within the fuel cell. With respect to claim 5 as amended, the pair of openings [2] are considered to reside in an end section thereof as shown in Figure 2, wherein the openings are disposed along the outer perimeter of each corner. Applicant has also requested clarification as to where the claimed "at least one pair of opening" and "spaced openings" are shown in Faita as recited in claim 5 and claim 15. In reply, Figure 2 is relied upon to show these features. The examiner notes that Figure 2 shows a detailed view of bipolar plate [1], although the figure itself does not reference the bipolar plate shown with the appropriate reference number [1]. See col. 5 line 53 et seq., "With reference to FIG. 2, the bipolar plate (1) is made of a metal plate which may have a flat surface in the area of contact with collector (14)." The bipolar plate in Figure 2 is the same as the plate [1] shown in Figure 1 and Figure 6.

Claims 1 and 3-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Donelson (WO 98/57384).

The examiner notes that Donelson was cited as an "X"-type reference in the related International Search Report. The examiner relies on Donelson to show the alleged inventive feature of aligned openings in the internal manifold.

Donelson teaches a solid oxide fuel cell system having first [12] and second [14] interconnect plate, a cell casing/holder plate [34] having an aperture [36], the interconnect plates

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having aligned openings [52, 54, 56, 58], i.e. means for providing co-flow of fuel and oxidant gases for flow of fuel and oxidant gases therethrough. (Figure 2, col. 5 line 53-60) The openings include a plurality of radially extending slots [28]. See cited portion of the document as detailed in the search report, page 10 line 16 et seq., page 13 line 5 et seq.

### *Response to Arguments*

Applicant's arguments filed with the present amendment have been fully considered but they are not persuasive.

Applicant's argument appears to be one-fold: that Faita et al. does not teach or at least suggest an internal manifold having aligned openings. This argument is not persuasive, however, in view of Faita et al. maintained above for the reasons set forth under 35 U.S.C. 103(a).

Arguments against Abiyama are noted to be solely drawn to this reference not remedying alleged deficiencies in Faita et al. teaching or at least suggesting the claimed invention.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after


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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian A. Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
jam  
February 4, 2003

  
Patrick Ryan  
Supervisory Patent Examiner  
Technology Center 1700